DxMONITOR

Animal Health Report

Inside this Issue

Summer 1992

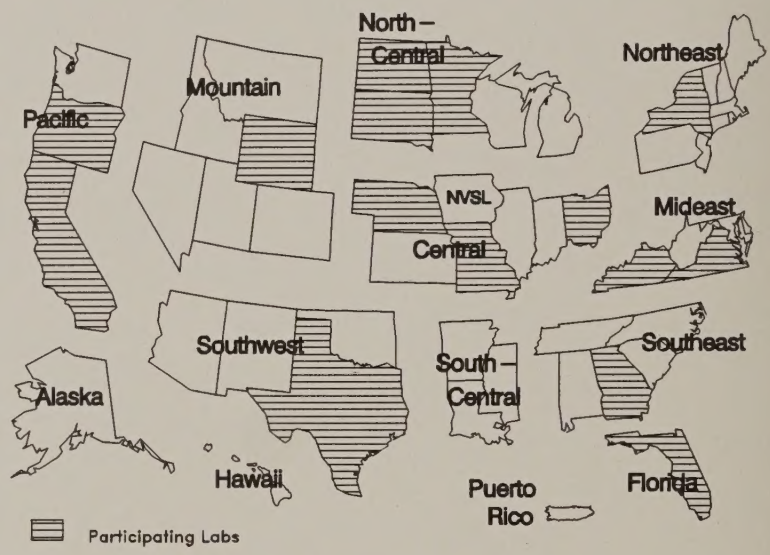
The DxMONITOR Animal Health Report is distributed quarterly as part of the Veterinary Diagnostic Laboratory Reporting System (VDLRS). The VDLRS is a cooperative effort of the American Association of Veterinary Laboratory Diagnosticians (AAVLD), the United States Animal Health Association (USAHA), and the United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA:APHIS). The purpose of the DxMONITOR is to report trends of confirmed disease diagnoses and animal health data collected from veterinary diagnostic laboratories and USDA:APHIS.

Caution should be taken when extrapolating information reported in the DxMONITOR due to the inherent biases of submitted specimens. Trends should be interpreted with care. An increase in the number of positive tests for a given diagnosis/agent may be the result of a true increase in prevalence, however, it may only reflect a new State testing requirement, a heightened awareness of the condition, or an increase in the number of laboratories reporting data.

For this issue, the disease reporting period for new data was January 1, 1992 through March 31, 1992. Data originated from the National Veterinary Services Laboratories (NVSL) and APHIS:Veterinary Services, as well as diagnostic laboratories located in the States shaded on the map below.

Abbreviations for regions used in this issue are:

AK = Alaska
CL = Central
FL = Florida
HI = Hawaii
ME = Mideast
MN = Mountain
NC = North-Central
NE = Northeast
PA = Pacific
PR = Puerto Rico & U.S. Virgin Islands
SC = South-Central
SE = Southeast
SW = Southwest
UNK = Unknown



Acknowledgment of Contributors

The following laboratories have contributed data which are reported in this issue. Thanks to all of the individuals at these laboratories who have worked to make the DxMONITOR Animal Health Report possible.

- **California Veterinary Diagnostic Laboratory System (Davis, CA)**
- **Bureau of Diagnostic Laboratories, Florida Department of Agriculture (Kissimmee, FL)**
- **Veterinary Diagnostic Laboratory, University of Georgia (Athens, GA)**
- **Veterinary Diagnostic and Investigational Laboratory, University of Georgia (Tifton, GA)**
- **National Veterinary Services Laboratories (Ames, IA)**
- **Breathitt Veterinary Center, Murray State University (Hopkinsville, KY)**
- **Livestock Disease Diagnostic Center, University of Kentucky (Lexington, KY)**
- **Minnesota Veterinary Diagnostic Laboratory, University of Minnesota (St. Paul, MN)**
- **Veterinary Medical Diagnostic Laboratory, University of Missouri-Columbia (Columbia, MO)**
- **Veterinary Diagnostic Center, University of Nebraska-Lincoln (Lincoln, NE)**
- **New York State Veterinary Diagnostic Laboratory, Cornell University (Ithaca, NY)**
- **North Dakota Veterinary Diagnostic Laboratory, North Dakota State University (Fargo, ND)**
- **Reynoldsburg Laboratory, Ohio Department of Agriculture (Reynoldsburg, OH)**
- **Animal Research and Diagnostic Laboratory, South Dakota State University (Brookings, SD)**
- **Veterinary Diagnostic Laboratory, Oregon State University (Corvallis, OR)**
- **Texas Veterinary Medical Diagnostic Laboratory, Texas A&M University (College Station, TX)**
- **Bureau of Laboratory Services, Virginia Department of Agriculture and Consumer Services (Richmond, VA)**
- **Wyoming State Veterinary Laboratory (Laramie, WY)**

Lab Notes

This section presents short descriptions of current investigations, outbreaks, or events of potential interest to diagnostic laboratories. The purpose is to provide a forum for timely exchanges of information about veterinary diagnostic laboratory activities. Submissions from nonparticipating laboratories are welcome.

NVSL Reports Bluetongue Virus Isolates for 1991

The Diagnostic Virology Laboratory (DVL) of the National Veterinary Services Laboratories (NVSL) in Ames, Iowa, isolated bluetongue virus (BTV) from five accessions in 1991. Three serotypes of BTV were isolated from animals in three States. BTV serotype 10 was found in bighorn sheep and domestic sheep in California. Serotype 17 was isolated from the same domestic sheep in California, as well as from domestic sheep in Idaho and bighorn sheep in New Mexico. Serotype 13 was found in a Persian gazelle in California. All three BTV serotypes (10, 13, and 17) have previously been reported in the United States.

Contact: Dr. Jim Pearson, NVSL, (515) 239-8551.

New Paratuberculosis Testing Protocol Being Used in New York

An enzyme-linked immunosorbent assay (ELISA) for screening herds for the presence of antibody to *M. paratuberculosis* has been instituted as part of New York's Paratuberculosis Certification Program. The test, based on a purified protoplasmic antigen of *M. paratuberculosis*, has been validated on over 1,300 cattle of known Johne's disease status. Based on ELISA results, animals are classified as to their risk of developing Johne's disease. Herds with virtually all animals in the low-risk category are almost always culture negative, while animals at high-risk are much more often positive on culture.

Only animals in the moderate- to high-risk categories, based on ELISA, are subjected to confirmatory fecal testing. Thus the number of fecal cultures now conducted per herd has been reduced by about 75%. Fecal culture results (particularly numbers of negative tests) from New York should be interpreted with this testing protocol in mind. Results of paratuberculosis testing in New York are not currently being reported in the DxMONITOR Animal Health Report.

Contact: Drs. Richard Jacobson, Sang Shin, or Don Lein, Cornell University, (607) 253-3900.

Eastern Equine Encephalomyelitis Season Begins Early in Florida

Florida's 1992 equine encephalomyelitis season began on January 17 with the isolation of eastern equine encephalomyelitis (EEE) virus from the brain of a horse stabled in the central part of the State. In addition, seven cases have been diagnosed serologically during the period January through March.

Like several other States, Florida has recently isolated EEE from emus. With the growing list of EEE isolations from these birds, consideration should be given to vaccinating ratites located in high incidence areas such as Florida.

Contact: Dr. Harvey Rubin, Kissimmee Animal Laboratory, (407) 846-5200.

Viscerotropic Velogenic Newcastle Disease Virus Isolated from Parrots

In April 1991, carcasses of 61 juvenile yellow-necked Amazon parrots (*Amazona ochrocephala auropalliata*) were submitted for virus isolation to the Diagnostic Virology Laboratory, NVSL. The parrot carcasses, which had been kept frozen in a private residence in South Texas, were obtained by another U.S. government agency and submitted to the NVSL.

Suspensions of lung tissue and tracheal and cloacal swabs from each parrot were inoculated into embryonating chicken eggs. Newcastle disease virus (NDV) was isolated from all the birds. The NDV was characterized as viscerotropic velogenic Newcastle disease (VVND) by its pathogenicity for chickens and by monoclonal antibody typing.

The isolation of VVND virus from these 61 parrots serves as a reminder that psittacine birds may provide a source of VVND that could infect domestic poultry and other avian species.

Contact: Dr. Brundaban Panigraphy, NVSL, (515) 239-8551.

First Reported Case of Fatal Babesiosis in a Woodland Caribou

Acute babesiosis was diagnosed in an American woodland caribou housed at the Minnesota Zoological Garden. Clinical signs included hemoglobinuria, anemia, fever, and anorexia. Clinical pathology findings indicated a progressive hemolytic anemia, marked parasitemia, lymphopenia and eosinopenia, and renal failure. The animal died 6 days after the onset of clinical signs. Blood and tissue specimens were submitted to the NVSL.

Histopathological examination of tissues revealed hemoglobinuric nephropathy, membranoproliferative glomerulopathy, hepatic centrilobular degeneration, cardiac and adrenocortical hemorrhage, and splenic and lymph node hemosiderosis. Numerous erythrocytes in smears, paraffin sections, and electron micrographs contained one to four organisms morphologically typical of a small *Babesia*. These findings are consistent with a diagnosis of acute babesiosis.

Whole blood and serum were referred to Dr. Gale Wagner at Texas A&M University for serologic studies and *in vitro* culture attempts. Immunofluorescent antibody test results indicated cross reactions between the caribou organism and *Babesia bovis* and *B. divergens* specific antisera. The organism was isolated and cultivated *in vitro*. In culture, the organism is morphologically similar to *B. divergens* and *B. odocoilei*. Further characterization studies are in progress.

Data were contributed by Drs. Jack Rhyan and Jack Schlater and Ms. Sharon Jenkins, NVSL; Dr. Kristine Petrini, Minnesota Zoological Garden; and Ms. Patricia Holman and Dr. Gale Wagner, Texas A&M University.

Contact: Dr. Jack Rhyan, NVSL, (515) 239-8521.

I. Patterns of Selected Diseases

Section I contains information on diseases of interest as defined by the Office International des Epizooties' (OIE) list B. The purpose of reporting these data is to monitor confirmed cases of specific diseases on a State-by-State or regional basis so that National distributions can be mapped and evaluated.

Key to Figures in this Section:

- In some cases, the reported number of negative tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Data are presented by region or State of sample origin and quarter year of sample submission.

☐ Bovine Brucellosis

Source: Dr. Mike Gilsdorf
USDA:APHIS:VS
Cattle Diseases Staff
(301) 436-4918

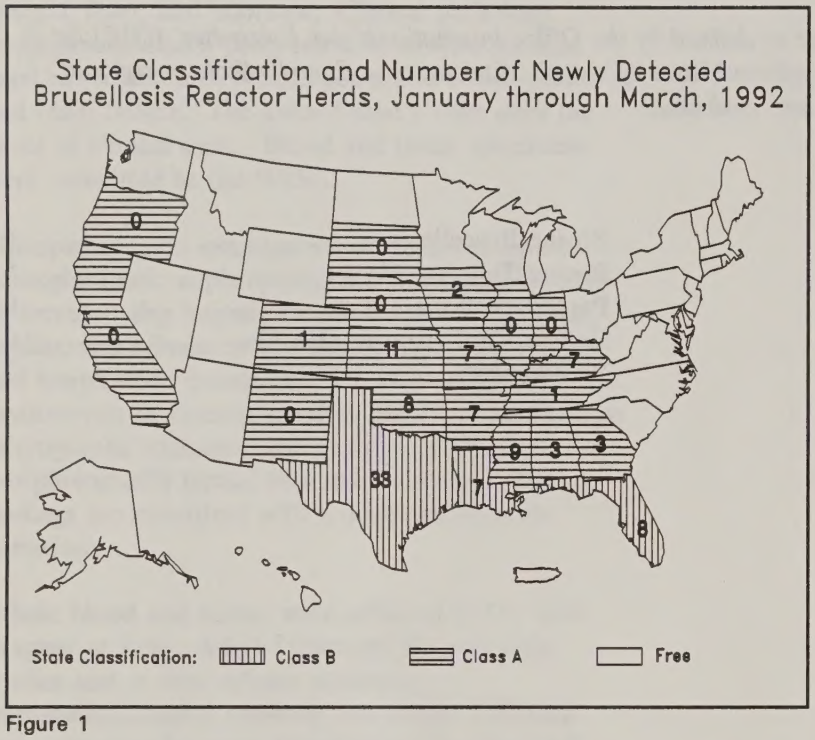


Figure 1

Reactor herd = Herd with at least one case of brucellosis confirmed by serology or culture.

Definition of State Classifications:

Class B: More than 0.25%, but less than 1.5% of all herds infected.

Class A: No more than 0.25% of all herds infected.

Free: No infected herds under quarantine during the past 12 months.

Mississippi has advanced from Class B to Class A status. There were 107 reactor herds detected in the U.S. from January through March, 1992, 34 fewer than during the previous 3 months and 99 fewer than detected from January through March, 1991.

The decrease in the number of brucellosis reactor herds detected from January through March, 1992, as compared to the same quarter of 1991, was led by Texas which had 60 fewer herds identified. Figure 3 shows the number of new reactor herds by quarter, from the first quarter of 1990 through the first quarter of 1992, both in Texas and in the remainder of the U.S. During the most recent four quarters there have been 23.3% fewer reactor herds detected in the U.S. than during the previous four quarters.

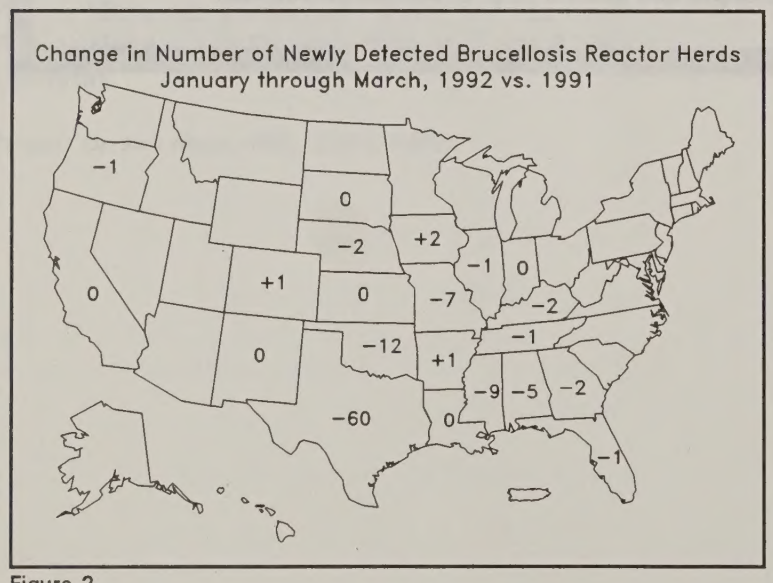


Figure 2

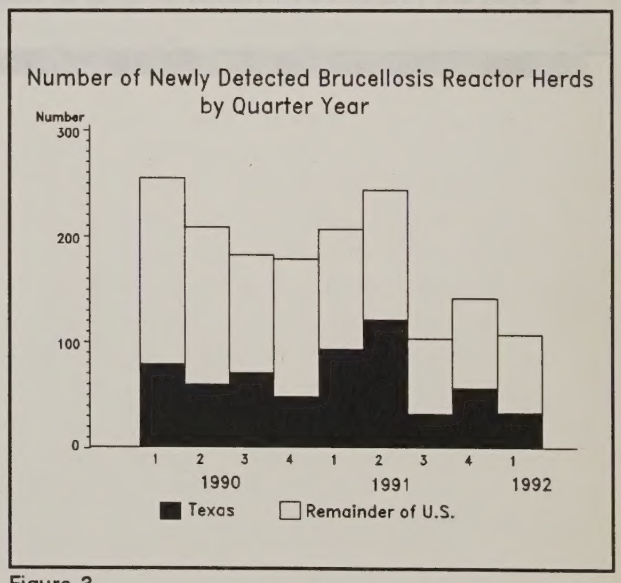


Figure 3

☐ Bovine Tuberculosis

Source: Dr. Mitch Essey
USDA:APHIS:VS
Cattle Diseases Staff
(301) 436-8711

Infected = Laboratory confirmed existence of bovine tuberculosis, either through *Mycobacterium bovis* isolation or positive histopathology.

Exposed = Believed to be infected but laboratory confirmation of *M. bovis* does not exist.

Two new bovine herds were identified as infected with tuberculosis in New York during the first three months of 1992, bringing the total in the U.S. to 12.

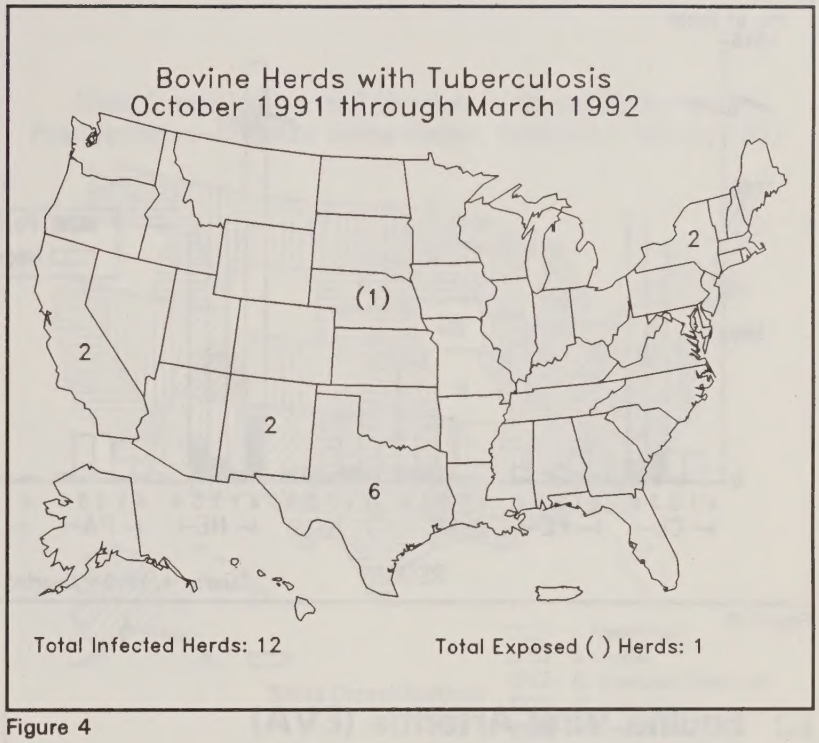


Figure 4

Pending = Herd evaluation still in progress.

All of the infected and pending Cervidae herds consisted of captive animals, either elk or deer. Of the 12 herds infected with bovine tuberculosis, 8 were made up of deer and 4 of elk. Three of the deer herds were located in New York, 2 in Montana, and 1 each in Wisconsin, Texas, and Idaho.

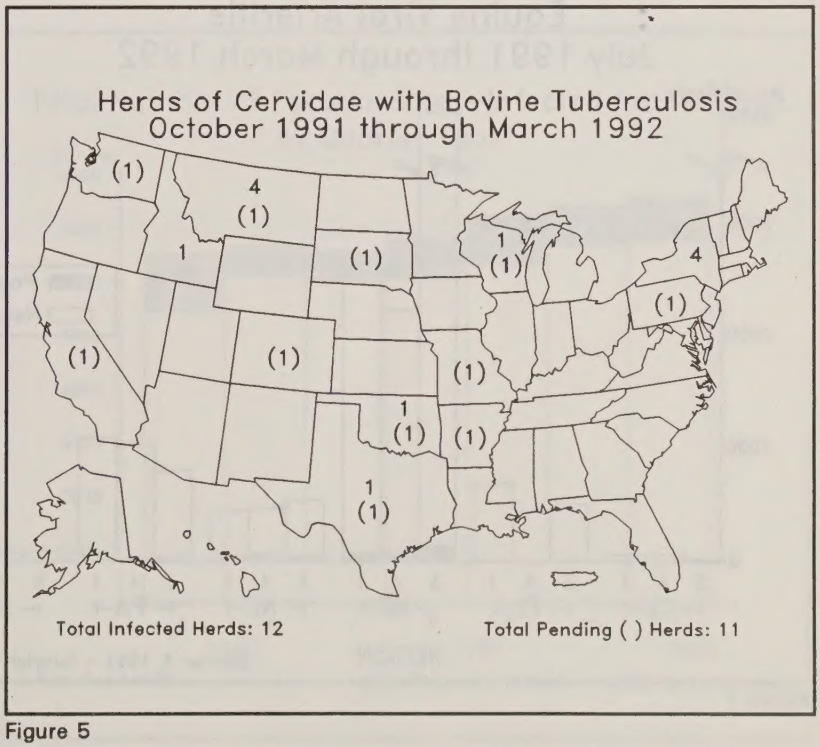


Figure 5

☐ Paratuberculosis

Criteria: Culture or histopathology

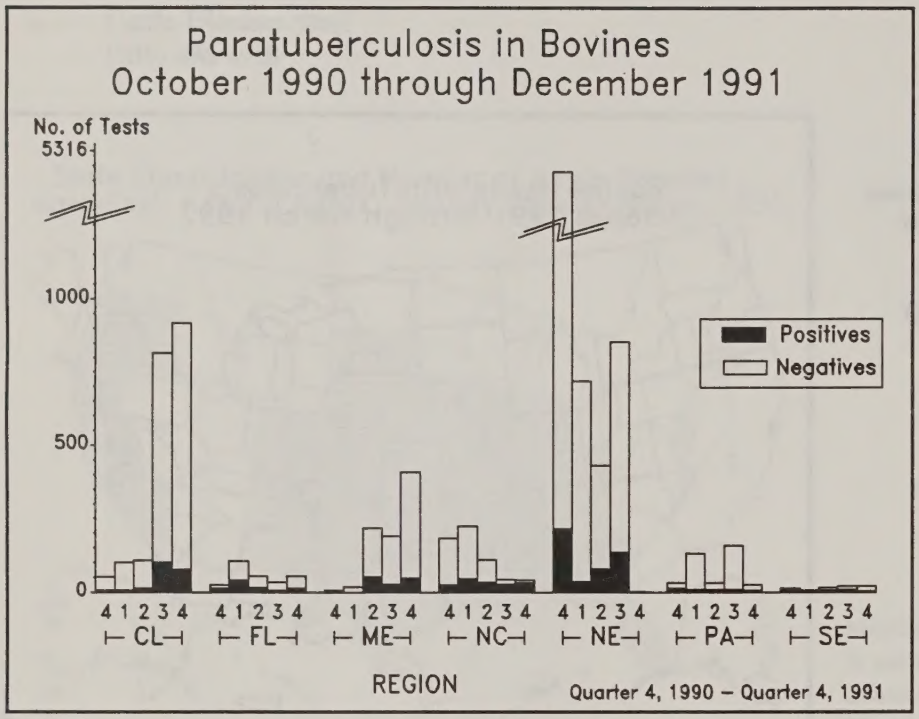


Figure 6

The Central region had the most positive tests and the most total tests reported for paratuberculosis in bovines during the fourth quarter of 1991. The North-Central region had the highest percentage of tests positive in bovines (75.6%) during that quarter.

[NOTE: Because of a change in their testing protocol, the laboratory in New York did not report results of testing for paratuberculosis from October through December, 1991 (see "Lab Notes"), thus there were almost no data reported for the Northeast region for the fourth quarter of 1991.]

☐ Equine Viral Arteritis (EVA)

Criteria: Virus neutralization (>1:4 titer) and no history of vaccination, or, virus isolation (tissue or semen)

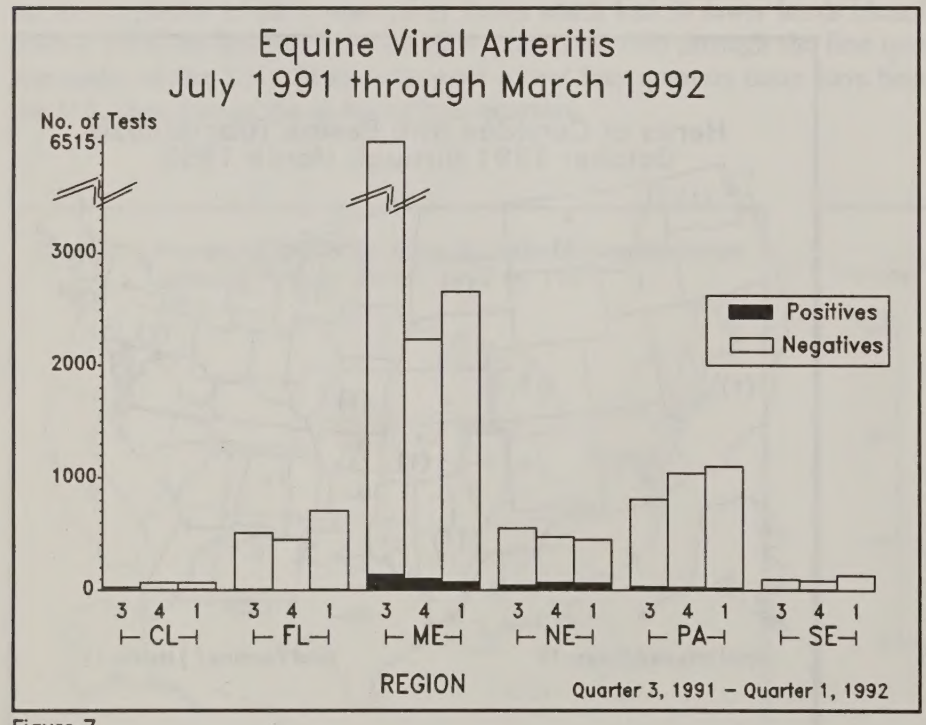


Figure 7

The Mideast region had the largest number of positive tests (72) reported for equine viral arteritis from the first quarter of 1992, although the total was 30 percent lower than for the previous quarter (72 vs. 103). The Northeast region had the highest reported percentage of tests positive for the most recent quarter (63/449 = 14.0%).

☐ Pseudorabies

Source: Dr. Joe Annelli
USDA:APHIS:VS
Swine Health Staff
(301) 436-7767

The States of New Hampshire and New Mexico advanced in classification during the last quarter (to Stage II and IV, respectively). A total of 789 swine herds were detected with pseudorabies during the first quarter of 1992. That was 39 percent more newly detected herds than during the same period in 1991 and 5.3 percent more than during the fourth quarter of 1991.

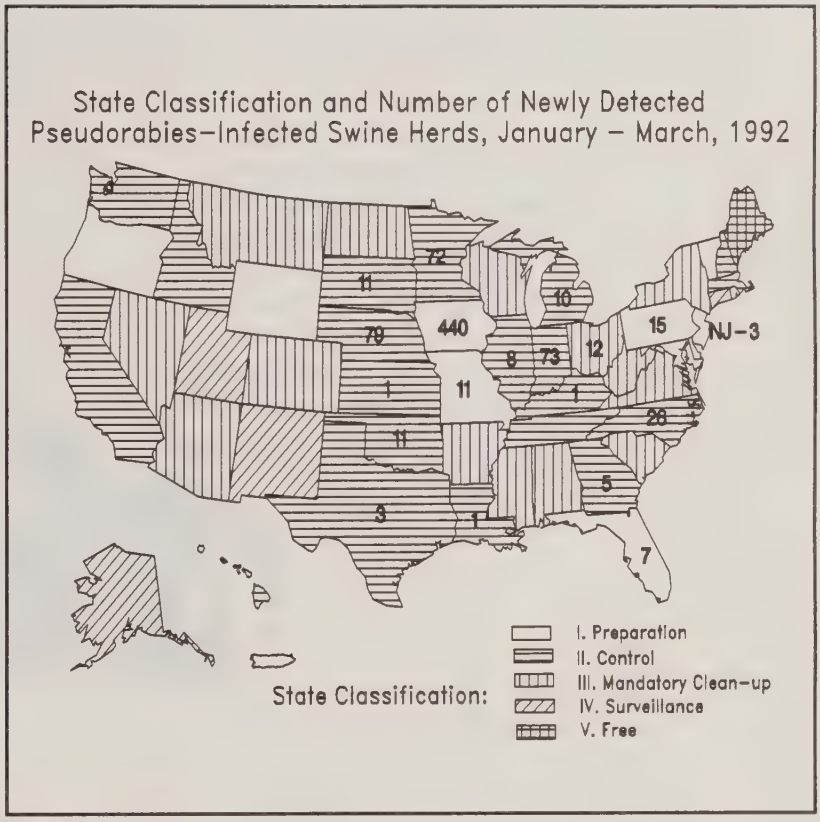


Figure 8

Iowa now has more than half of all the known pseudorabies-infected swine herds in the U.S. (3,794/7,539). Although the number of known infected herds has decreased in 20 States and increased in only 7 as compared to one year ago, the total number of known infected herds in the U.S. has increased by 15 percent over the last year.

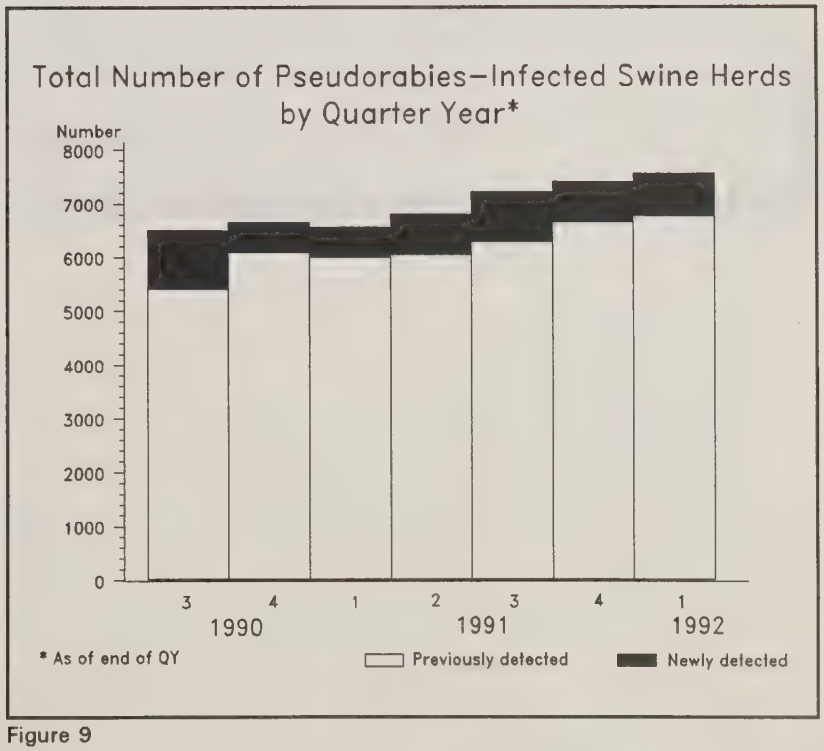


Figure 9

II. Etiologic Agents Associated with Calf Diarrhea

Section II characterizes agents most commonly associated with diarrhea in calves (eight weeks of age or less) from accessions reported to veterinary diagnostic laboratories.

Key to Figures in this Section:

- In some cases, the reported number of negative tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Data are presented by region of sample origin and quarter year of sample submission.

☐ *Campylobacter* spp.

Criterion: Culture

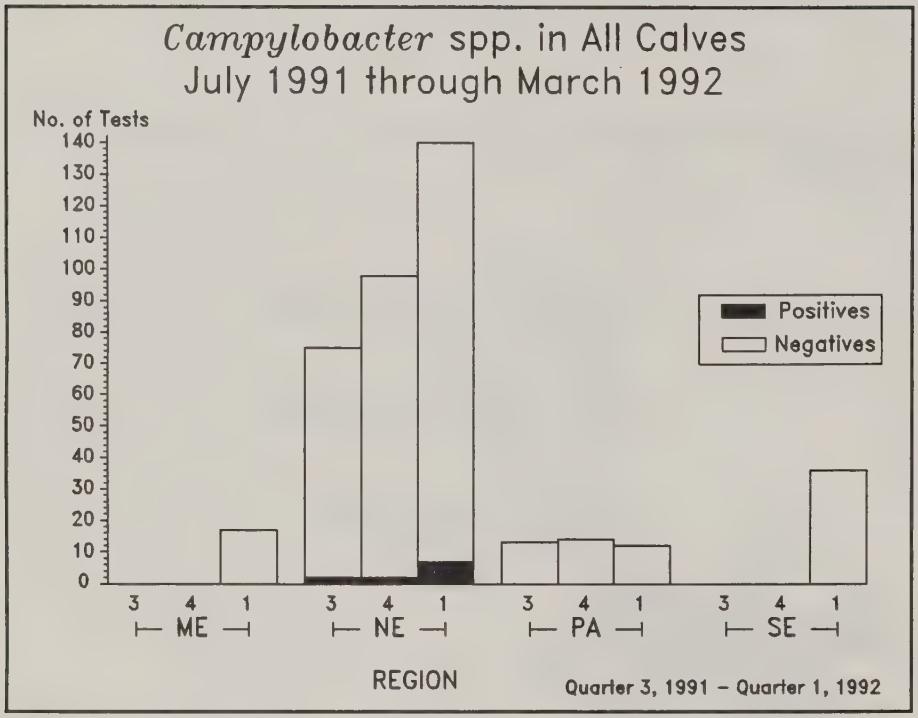


Figure 10

The Northeast was the only region to have any positive tests reported for *Campylobacter* spp. in calves for the first quarter of 1992. All 7 of those positive tests, and 89 percent of the total tests (124/140), were from dairy calf specimens.

☐ *Clostridium perfringens* Type C

Criteria: Gross and histopathologic exam

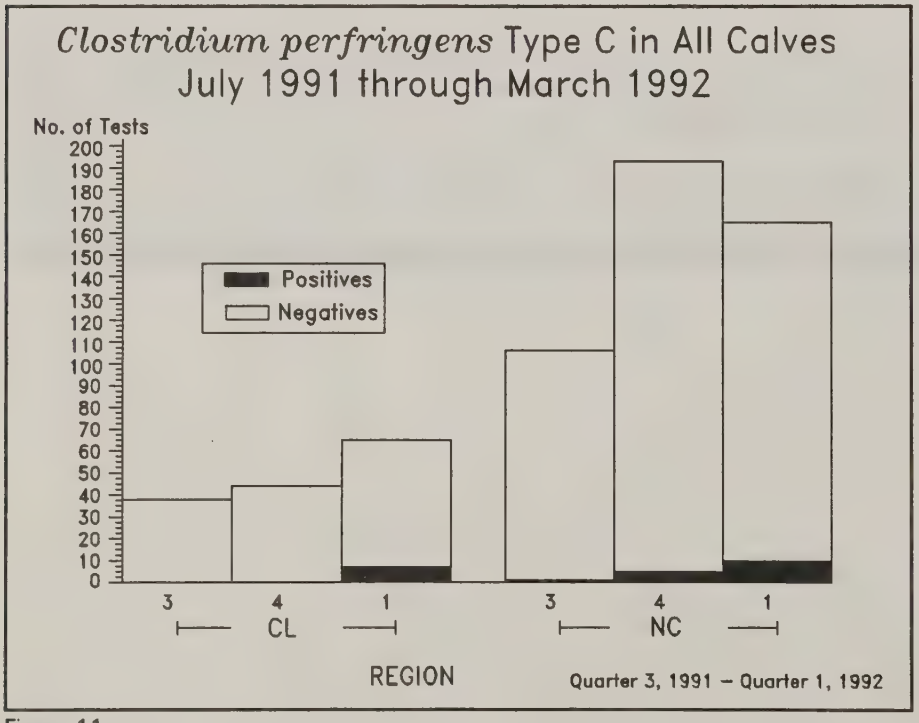


Figure 11

Only the Central and North-Central regions had more than 3 total tests reported for *Clostridium perfringens* type C in calves during the first quarter of 1992 (regions with fewer tests are not shown in Figure 11). The North-Central region had the most positive tests (10) and the most total tests (165) reported for the quarter.

☐ *Escherichia coli*

Criteria: Culture from intestine and demonstration of at least one virulence characteristic such as: adhesive antigens (K99), bacterial adherence, or enterotoxin

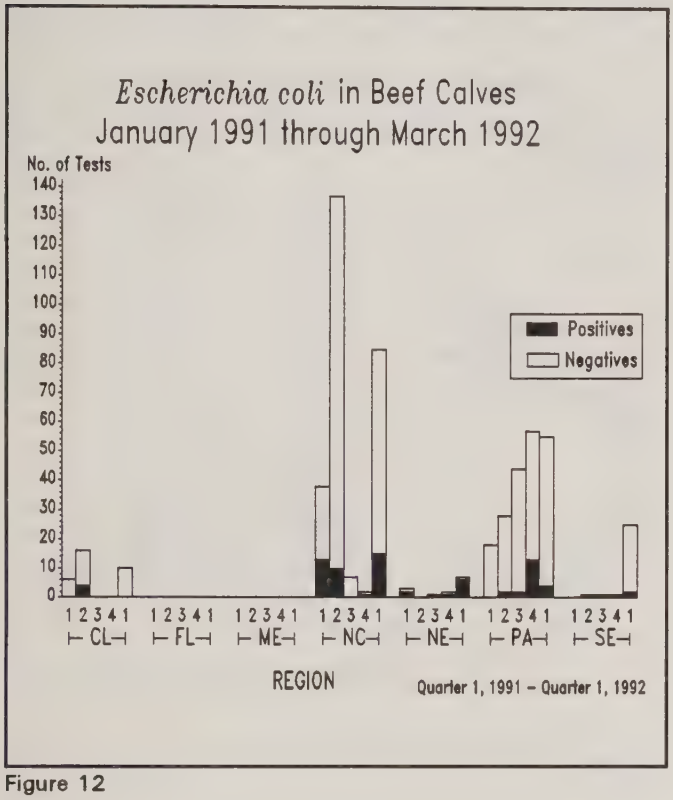


Figure 12

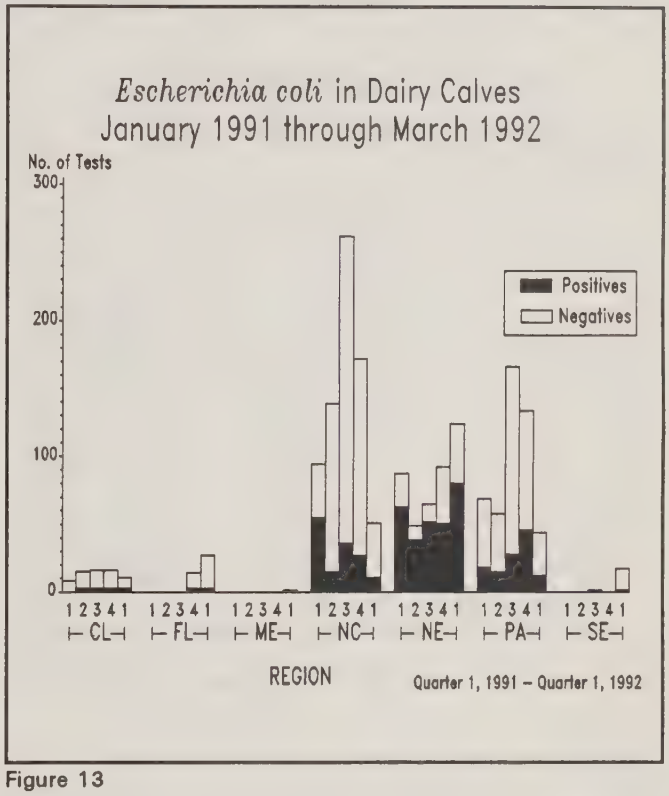


Figure 13

The Northeast region had the most positive tests reported for *E. coli* from all calf specimens for the first quarter of 1992, although the most total tests were reported for the North-Central region. The Mideast and Northeast had the highest percentages of tests positive for the current quarter. The Northeast region continued to have the highest number of positive tests and highest percentage of tests positive among dairy calf specimens.

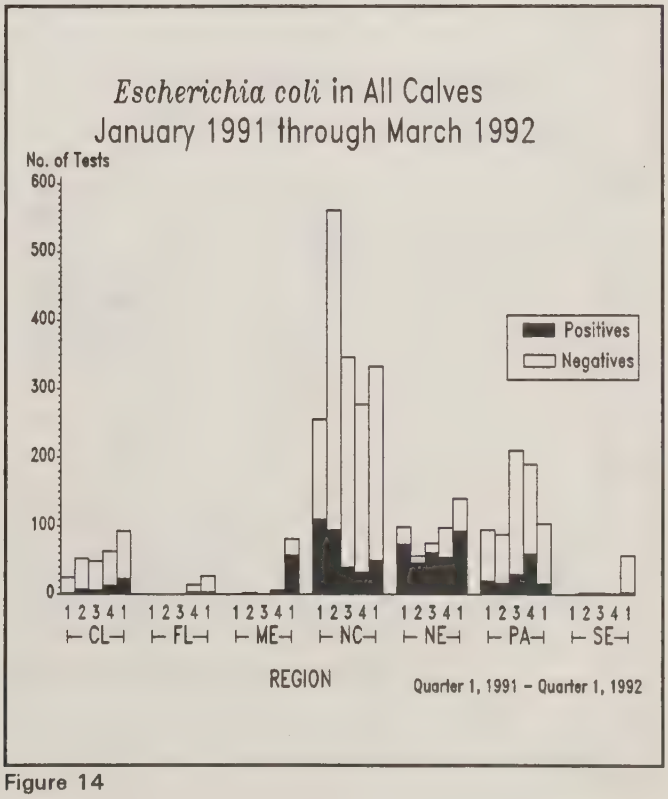


Figure 14

☐ *Salmonella* spp.

Criterion: Culture (serotype identification encouraged)

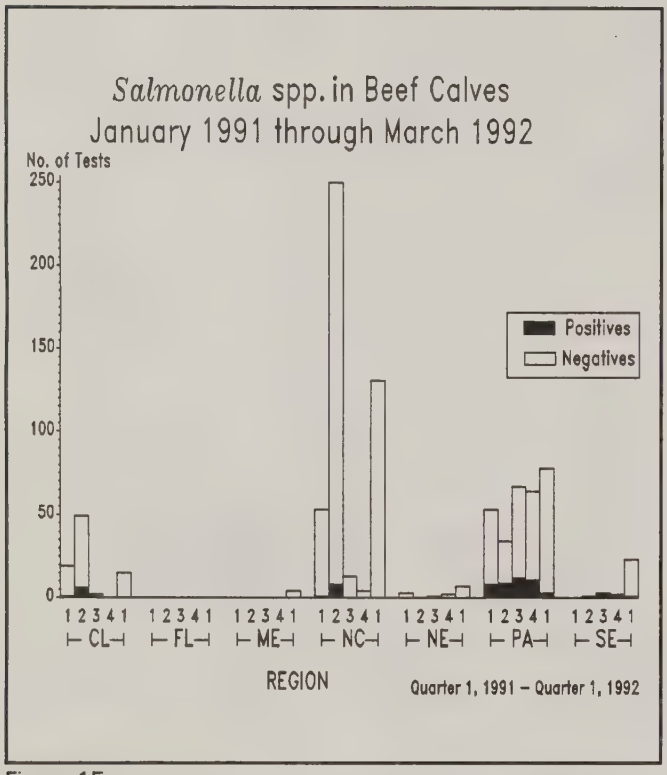


Figure 15

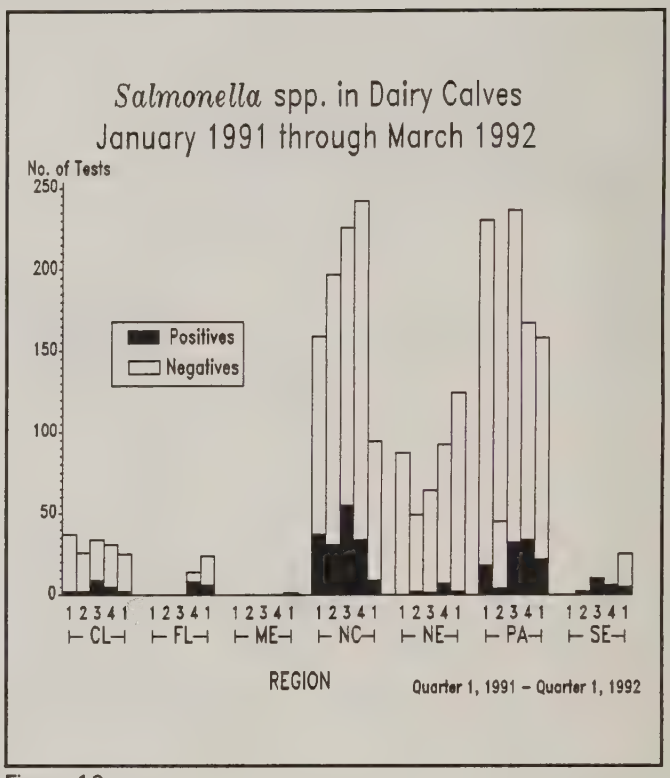


Figure 16

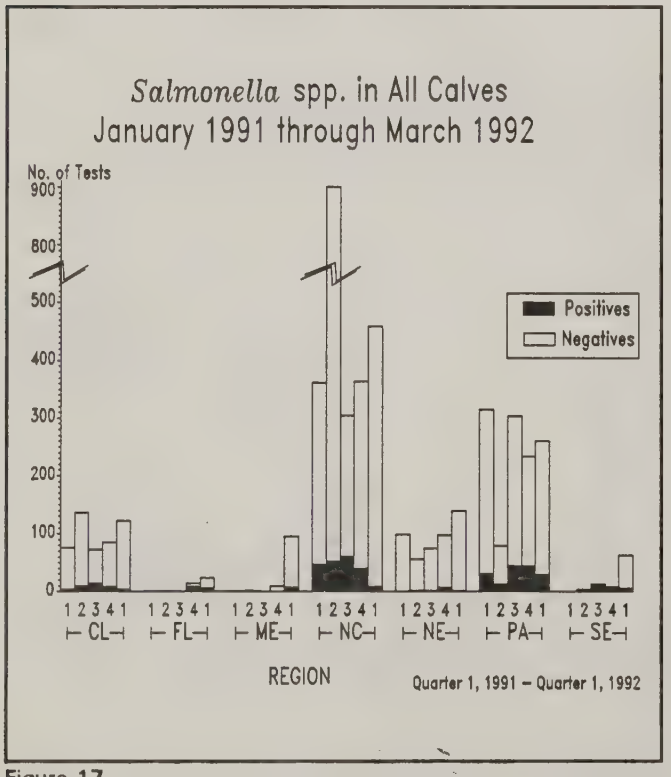


Figure 17

In most of the regions for which data were reported and among each class of calves (beef, dairy, and all combined), the number of positive tests for *Salmonella* in the first quarter of 1992 was less than or equal to the number of positives reported for the previous quarter. Most regions also had more total tests reported for the first quarter of 1992 than for the previous quarter. Most of the positive tests for *Salmonella* were reported from dairy calf specimens.

☐ Bovine Viral Diarrhea (BVD)

Criteria: Virus isolation, or, positive FA (any tissue) with histologic lesions

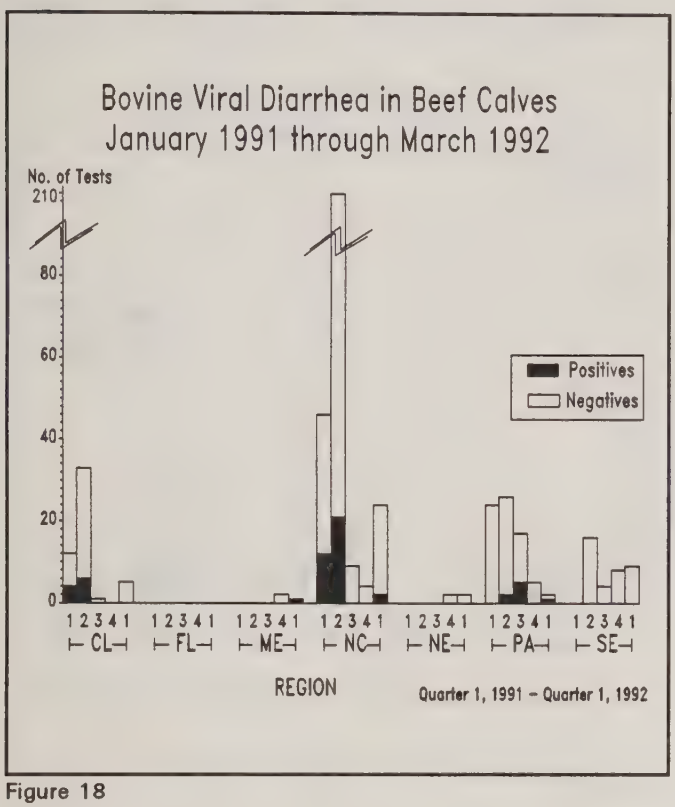


Figure 18

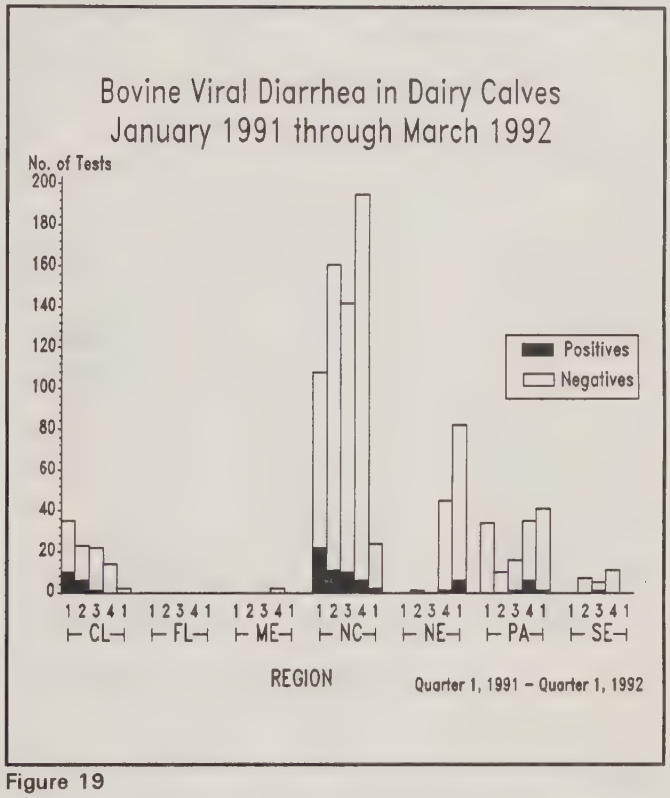


Figure 19

The largest number of positive tests for bovine viral diarrhea (BVD) reported for any region for the first quarter of 1992 was six, in both the North-Central and Northeast regions. This is in contrast with the number of positive tests reported for the first quarter of 1991, when the North-Central region had 49 and the Central had 30.

[NOTE: All but 25 of the tests previously reported for the Southeast region for the first and second quarter of 1991 have been deleted from Figure 20. All of those deleted were serologic tests which did not meet the established criteria for BVD reporting.]

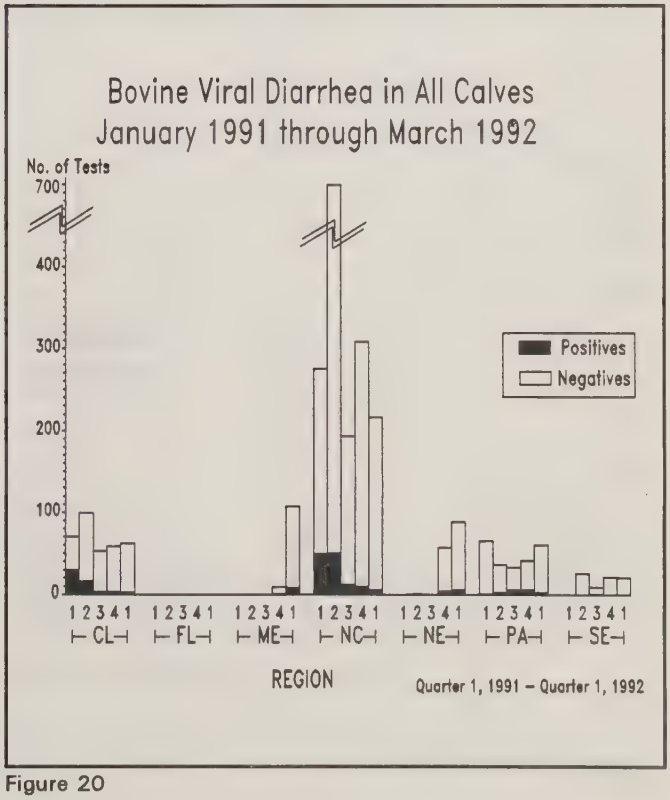


Figure 20

☐ Coronavirus

Criteria: Antigen by FA or ELISA, or, electron microscopy of feces/intestinal contents

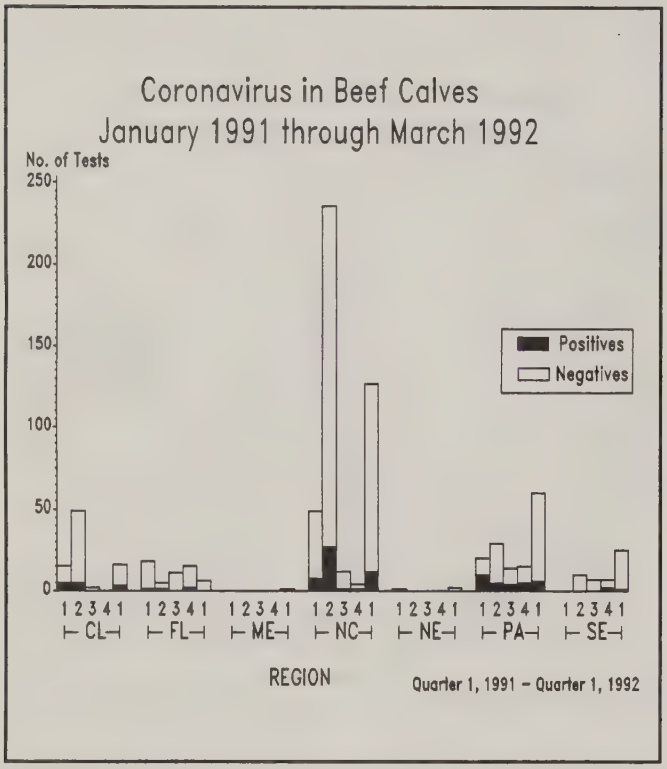


Figure 21

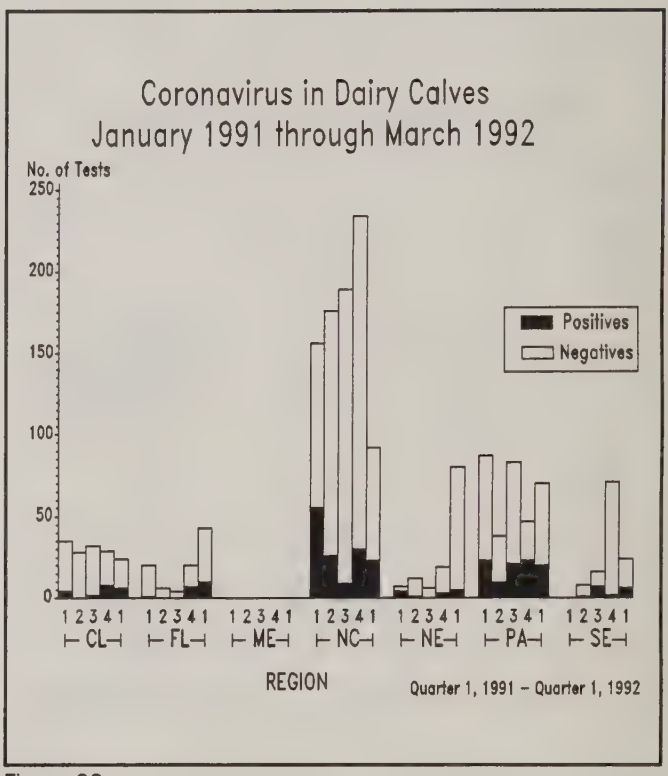


Figure 22

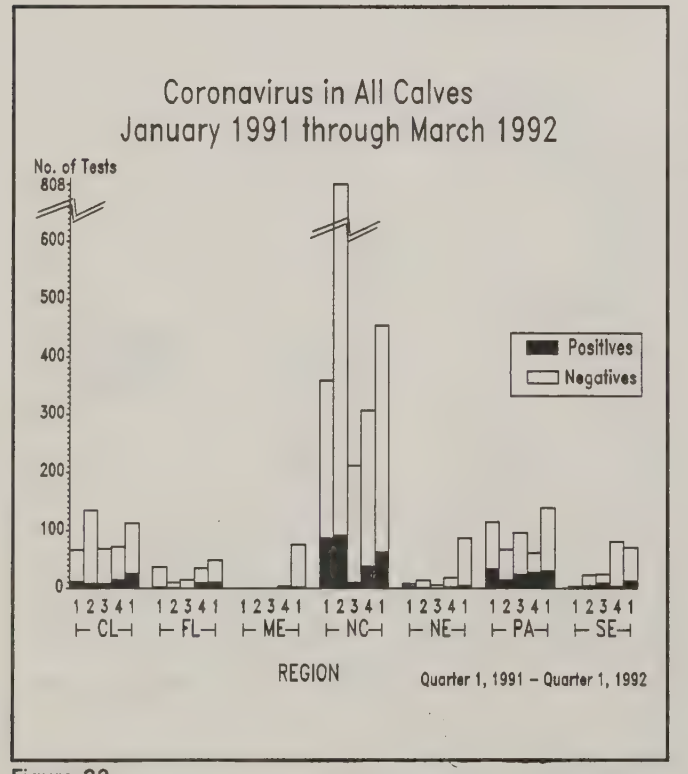


Figure 23

Overall, more positive tests for coronavirus were reported from dairy calf specimens than from beef calf specimens for the first quarter of 1992. A higher percentage of the dairy calf specimens tested for coronavirus were found positive, as compared to beef calf specimens.

☐ Rotavirus

Criteria: Antigen by FA or ELISA, or, electron microscopy of feces/intestinal contents

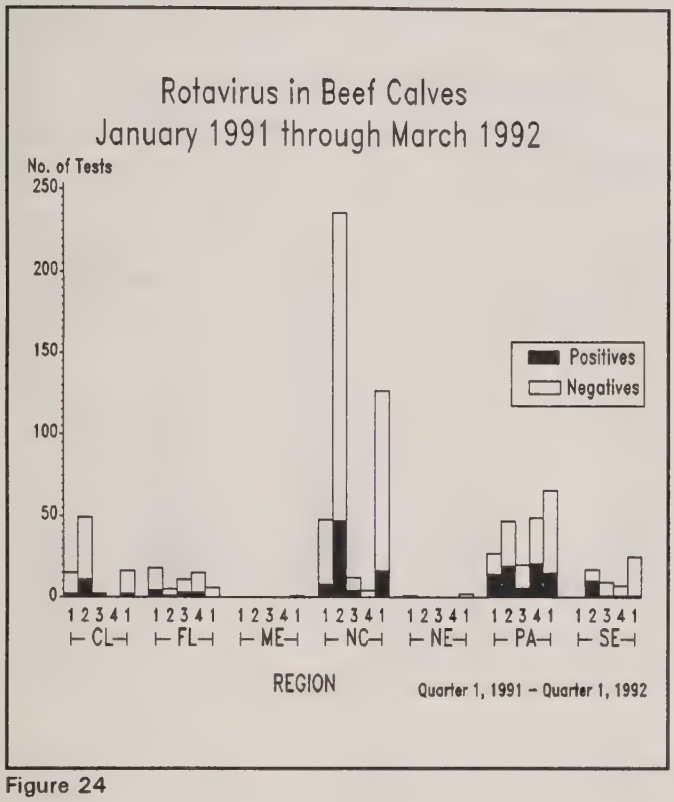


Figure 24

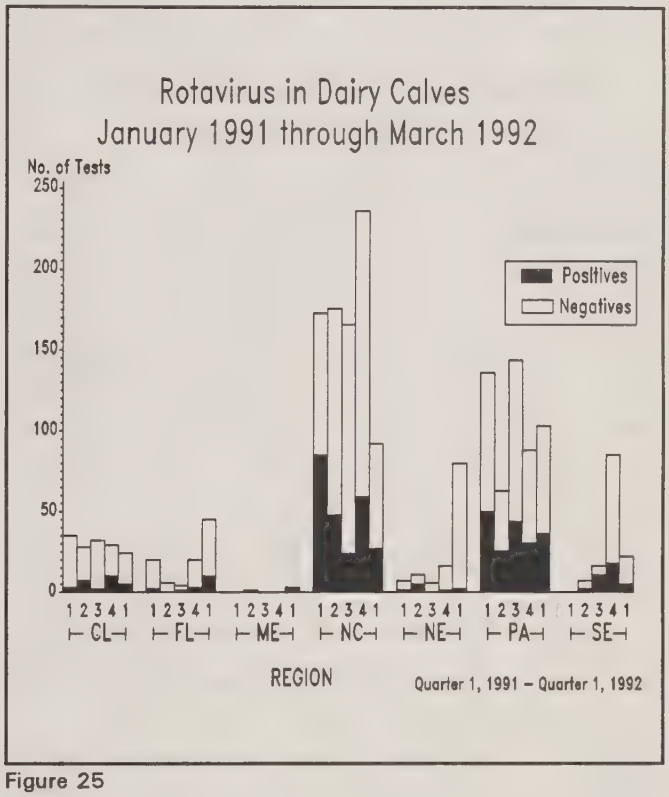


Figure 25

The North-Central and Pacific regions had the most positive cases of rotavirus reported from all calf specimens for the first quarter of 1992 (64 and 54, respectively), although many fewer total tests were performed on specimens from the Pacific region. As with coronavirus, the majority of positive tests for rotavirus were reported from dairy calf specimens.

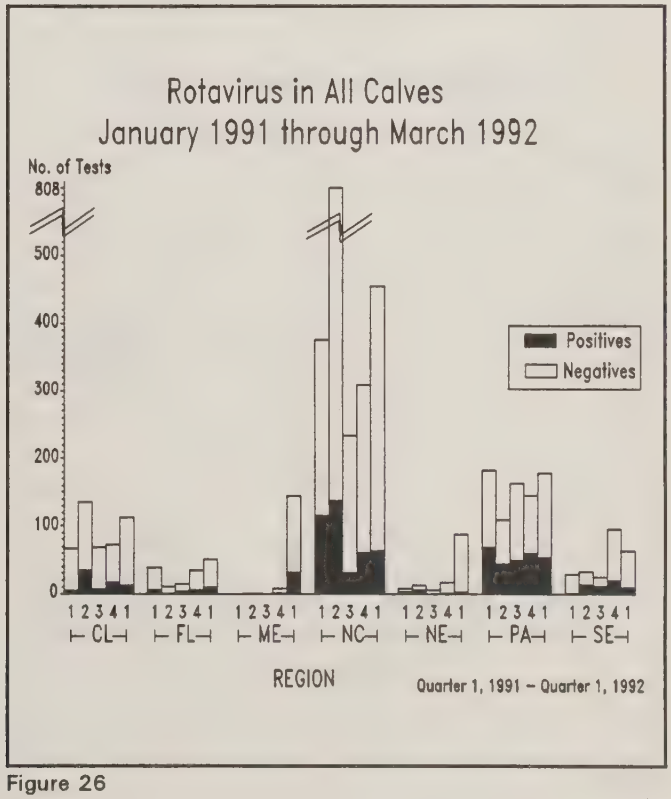


Figure 26

☐ Cryptosporidia Parasitism

Criteria: Parasitologic or histopathologic exam

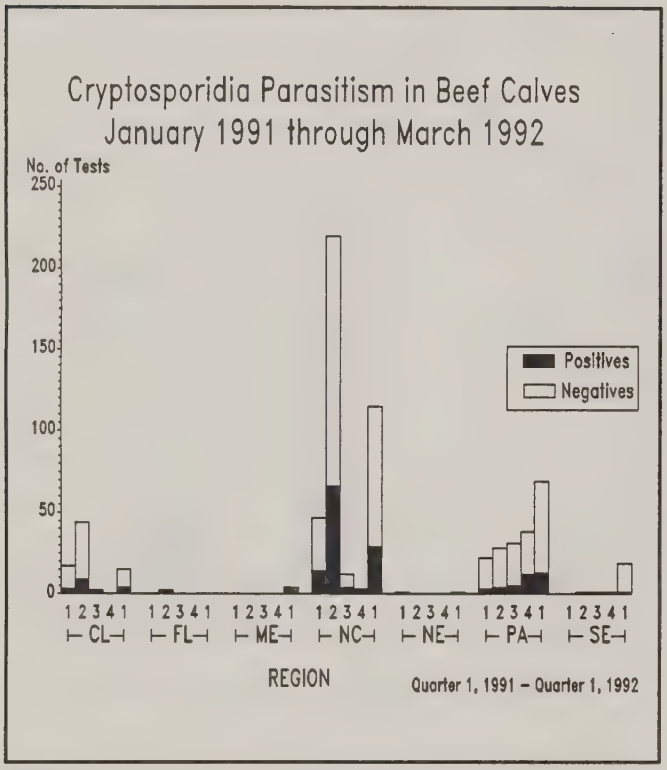


Figure 27

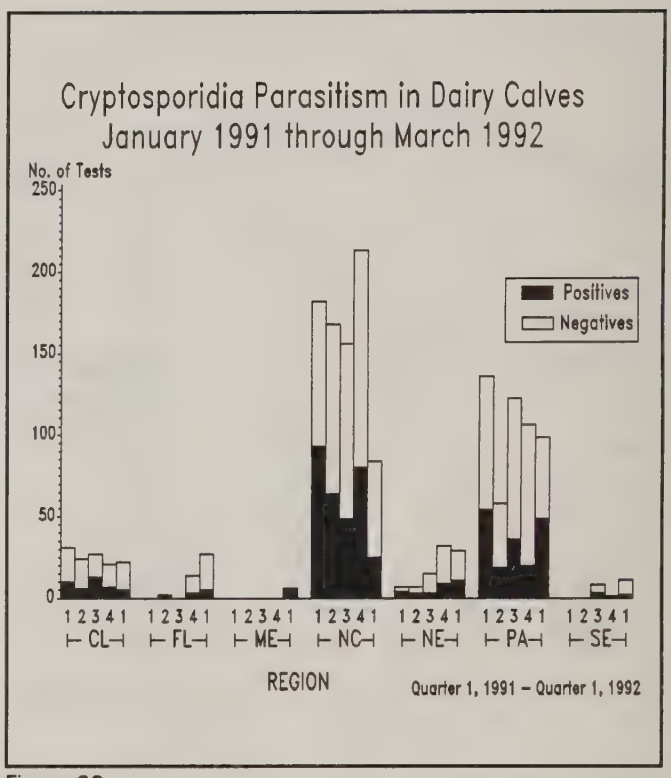


Figure 28

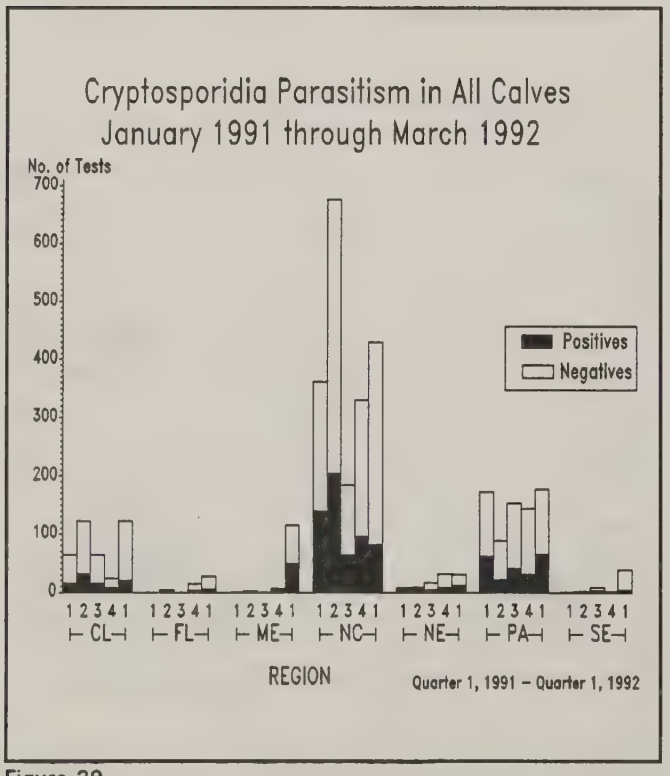


Figure 29

The North-Central and Pacific regions continue to have the most positive tests reported for cryptosporidia parasitism from calf specimens. Those regions also had the most total tests reported. Most of the positive tests were reported from dairy calf specimens.

☐ Coccidia Parasitism

Criteria: Parasitologic or histopathologic exam

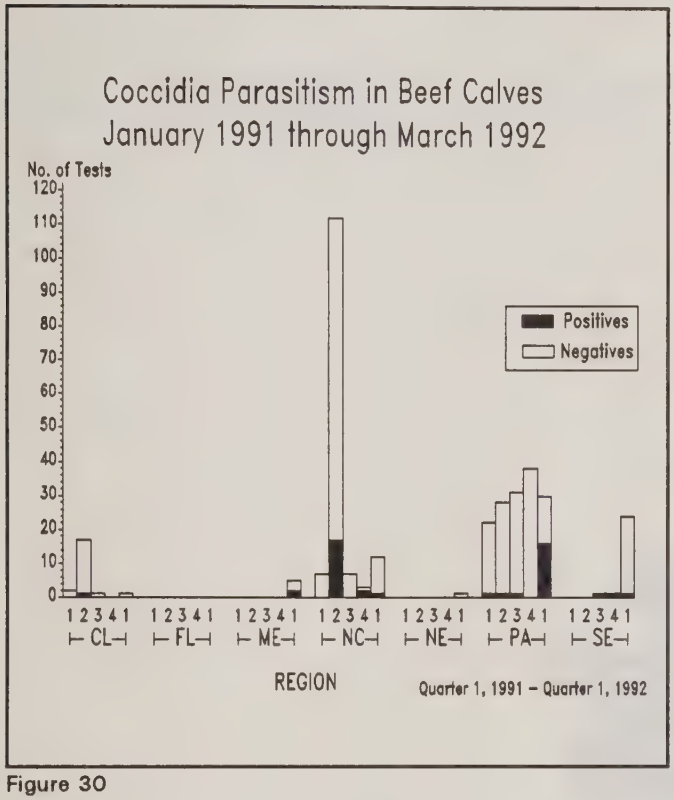


Figure 30

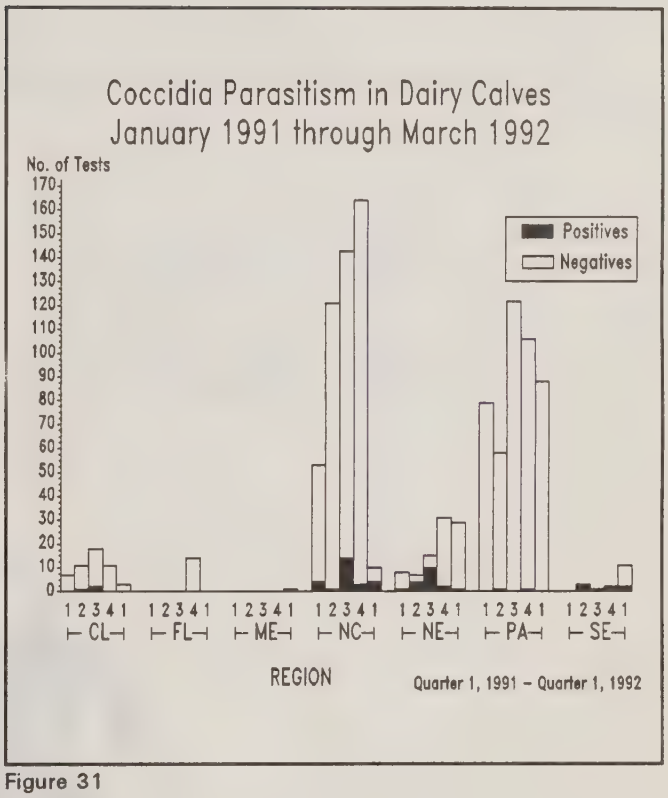


Figure 31

Most regions had more positive tests reported for coccidia parasitism from calf specimens in the first quarter of 1992 than for the previous quarter. Of the 40 positive tests reported from around the U.S. for the current quarter, 16 were from beef calf specimens from the Pacific region. In contrast, none of the 48 tests done on dairy calf specimens from the Pacific region were positive for coccidia.

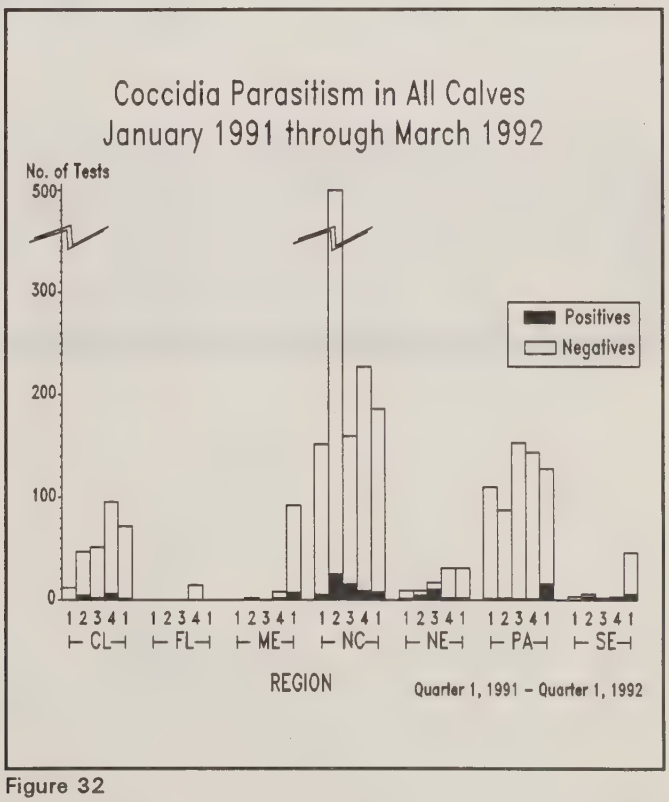


Figure 32

III. Etiologic Agents Associated with Piglet Diarrhea

Section III characterizes agents most commonly associated with diarrhea in piglets (eight weeks of age or less) from accessions reported to veterinary diagnostic laboratories.

Key to Figures in this Section:

- In some cases, the reported number of negative tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- Data are presented by region of sample origin and quarter year of sample submission.

☐ *Clostridium perfringens* Type C

Criteria: Gross and histopathologic exam

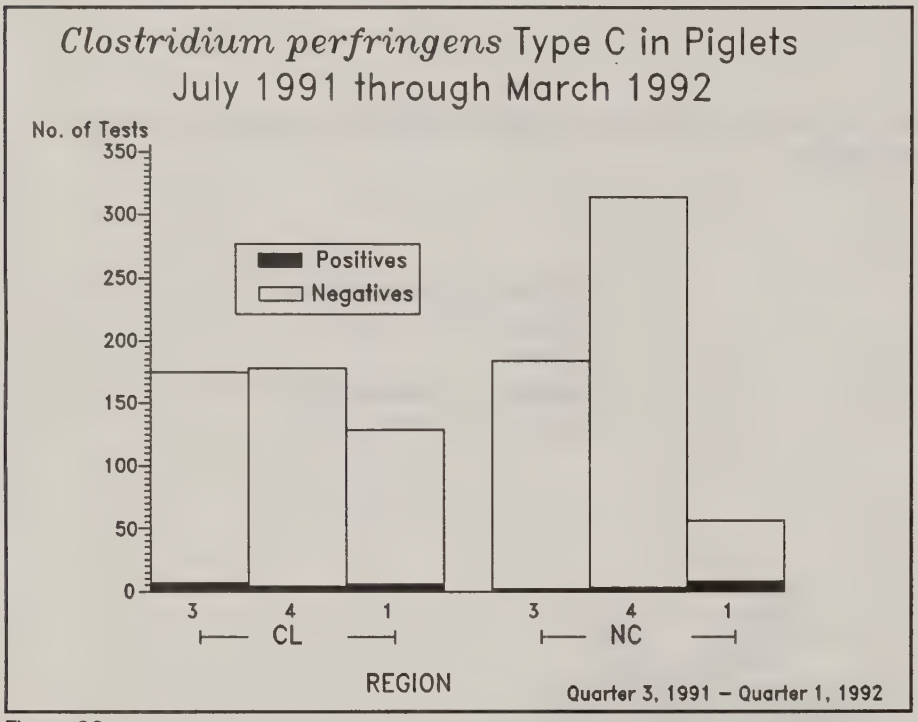


Figure 33

Only two regions, the Central and North-Central, had any piglet specimens reported as testing positive for *Clostridium perfringens* type C for the first quarter of 1992.

☐ *Escherichia coli*

Criteria: Culture from intestine and demonstration of at least one virulence characteristic such as: adhesive antigens (K99), bacterial adherence, or enterotoxin

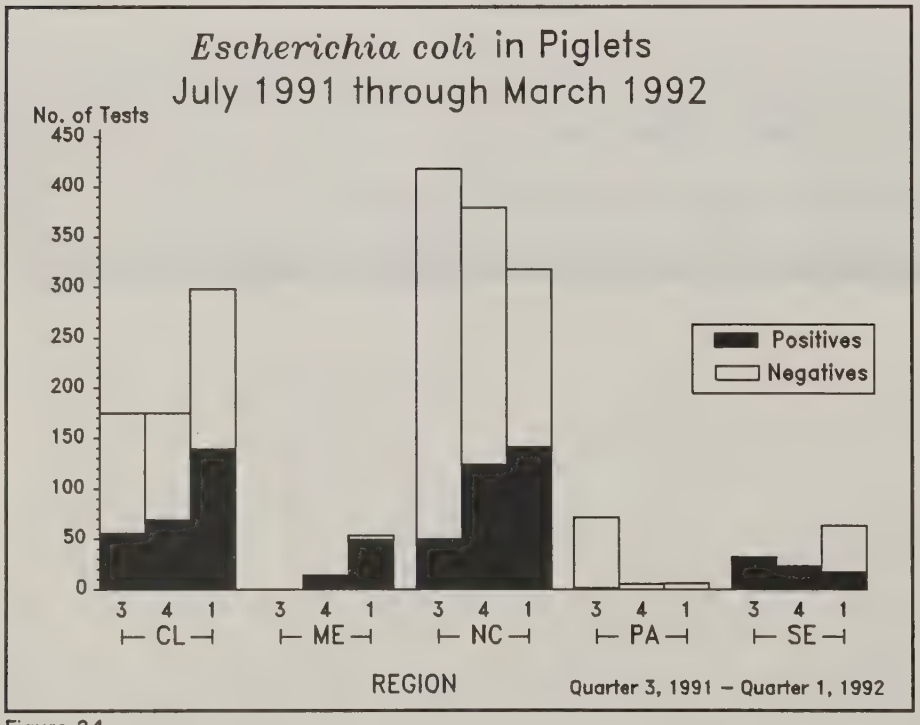


Figure 34

Both the Central and North-Central regions had more positive tests reported for *E. coli* for the first quarter of 1992 than for the previous quarter. Those two regions each had almost six times as many piglet specimens tested for *E. coli* during the current quarter as did any other region.

☐ Rotavirus

Criteria: Antigen by FA or ELISA, or, electron microscopy of feces/intestinal contents

The Central and North-Central regions had the largest number of positive tests for rotavirus reported from piglet specimens during the first quarter of 1992. Both regions reported the most total tests for rotavirus since reporting of the agent began in the third quarter of 1991.

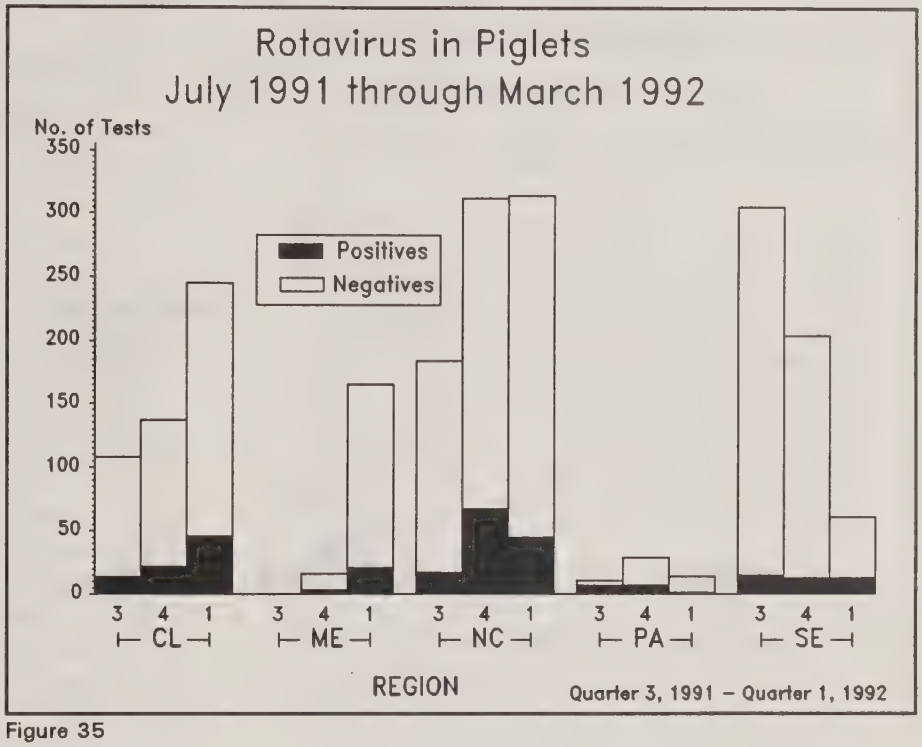


Figure 35

☐ Transmissible Gastroenteritis (TGE)

Criteria: Antigen by FA, or, electron microscopy

Results of testing for transmissible gastroenteritis in piglets were very similar to results of rotavirus testing, both in numbers of tests and numbers of positive tests.

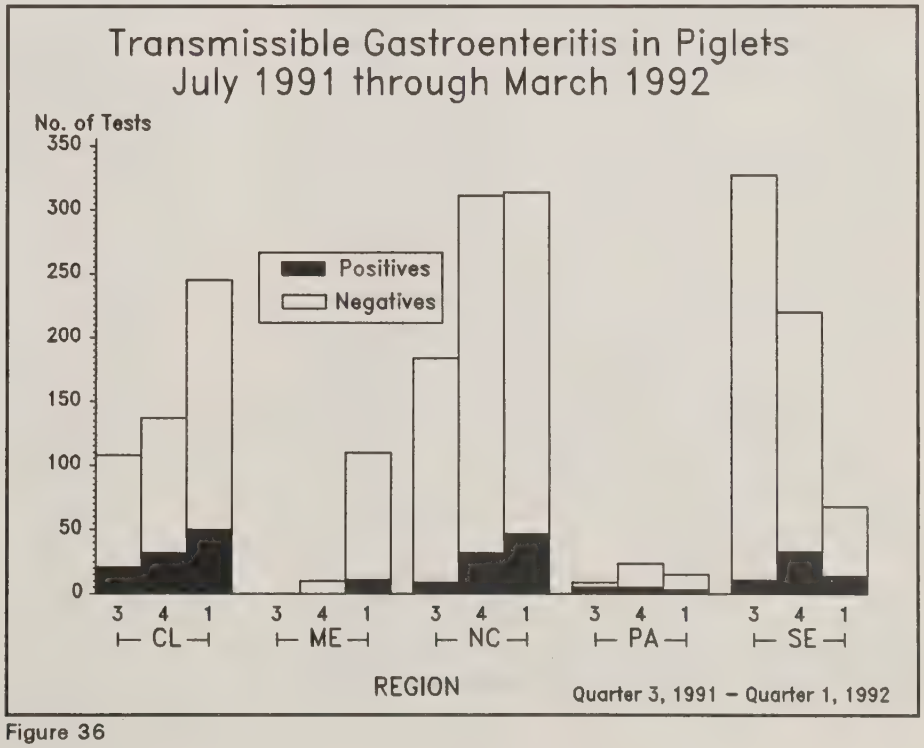


Figure 36

☐ Coccidia Parasitism

Criteria: Parasitologic or histopathologic exam

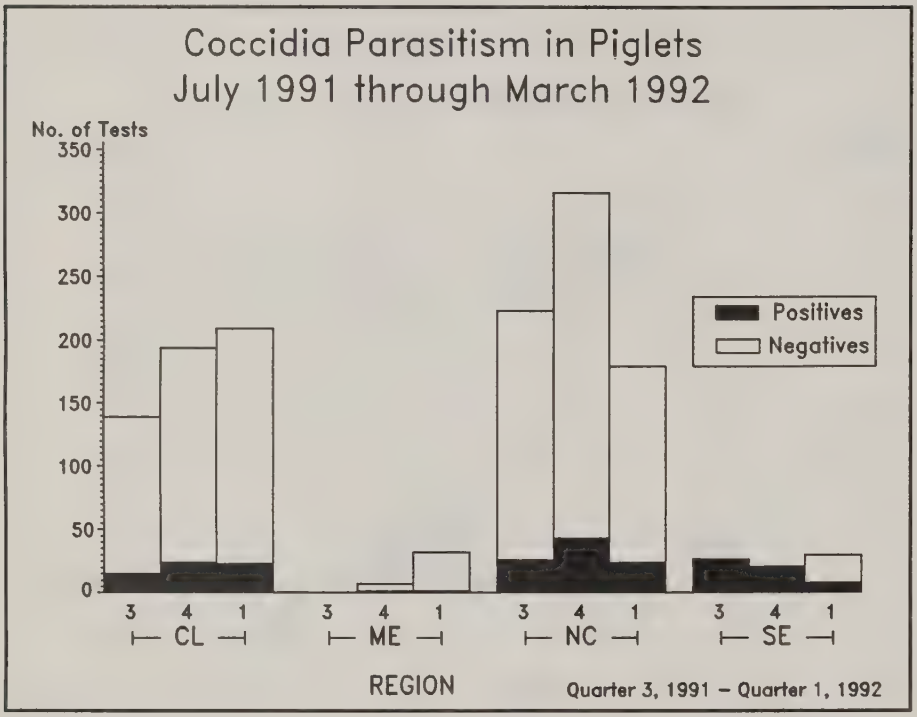


Figure 37

Every region had fewer positive tests for coccidia reported from piglets for the first quarter of 1992 than for the previous quarter. As with the other piglet diarrheal agents, the Central and North-Central regions had the most total tests and positive tests reported.

This section contains news items and articles of potential interest to diagnostic laboratories. Submissions from nonparticipating laboratories are welcome.

DxMONITOR Planning Committee to Meet at AAVLD in Louisville

A meeting of the Planning Committee for the DxMONITOR Animal Health Report has been scheduled for Saturday, October 31, 1992, in Louisville, Kentucky, in conjunction with the annual meeting of the American Association of Veterinary Laboratory Diagnosticians (AAVLD). The meeting is planned for 8 a.m. in the south end of the Liverpool Room in the Galt House Hotel. **Anyone interested in the future of the DxMONITOR Animal Health Report and the Veterinary Diagnostic Laboratory Reporting System (VDLRS) should plan to attend.** If you have a topic(s) which you would like on the agenda for discussion, please contact the staff at the address given on the inside back cover of this issue.

1992 AAVLD Membership Application

Anyone interested in joining the American Association of Veterinary Laboratory Diagnosticians (AAVLD) should fill out the application form on the right side of this page and mail it to the address on the application.

1992 Membership Application

American Association of Veterinary Laboratory Diagnosticians, Inc.

P.O. Box 6023, Columbia, MO 65205/Telephone (314) 882-6811

The purpose of the American Association of Veterinary Laboratory Diagnosticians is the dissemination of information relating to the diagnosis of animal disease, the coordination of the diagnostic activities of regulatory, research and service laboratories, the establishment of uniform diagnostic techniques and the establishment of accepted guides for the improvement of diagnostic laboratory organizations relative to facilities, equipment and personnel qualifications.

Any laboratory worker engaged in the field of disease diagnosis in animals or in allied fields involving teaching, research, commercial or regulatory functions is eligible for membership and is invited to join.

☐ Full Member $40.00: Annual Membership Dues
☐ Graduate Student/Resident Member $25.00: Annual Membership Dues

Please remit in U.S. dollars. Outside the USA, remit by draft on a U.S. bank or by international Postal Money Order.

Dues include a subscription to the *AAVLD Newsletter*, a current AAVLD membership roster, and the *Journal of Veterinary Diagnostic Investigation*.

Please return this application with your check or money order.

Name_____ Degree_____

Institution/Lab_____

Address_____

City_____ State_____

Zip_____ Country_____

Office phone_____ Fax No._____

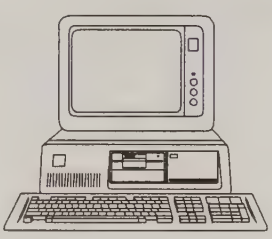
Interest/specialty area_____

_____

DxMONITOR Data Submission System Now Available

The DxMONITOR Data Submission System has been developed to assist laboratories participating in the Veterinary Diagnostic Laboratory Reporting System (VDLRS) with transfer of captured data to Fort Collins.

The system has not been designed to capture data directly out of a laboratory's data management system. To use the system, data must first be captured by a laboratory in whatever manner works best for that particular laboratory. The summary totals of these data are then entered into the data entry screen provided with the DxMONITOR Data Submission System. The reference guide leads the user through this process in a step-by-step manner.



Because the system was written within a software package called "Epi Info", a copy of this program and a user's guide are also included. Epi Info was developed by the Centers for Disease Control and the World Health Organization. It has many capabilities including data analysis, word processing, statistics, etc. Epi Info may be copied for friends and colleagues.

The following materials are included with the DxMONITOR Data Submission System:

- Epi Info program diskette
- Epi Info user's guide
- DxMONITOR program diskette
- DxMONITOR reference guide

Please feel free to contact the staff in Fort Collins for more information about the system (address and telephone number are on the inside back cover of this issue).

Clip-off "coupon" for copies of the DxMONITOR, brochures, and committee reports.

Materials available from the Veterinary Diagnostic Laboratory Reporting System (VDLRS) are listed below. Complete this coupon and send it to:

USDA:APHIS:VS
Veterinary Diagnostic Laboratory
Reporting System
555 South Howes, Suite 200
Fort Collins, Colorado 80521-2586

(Please allow 3-4 weeks for delivery.)

Quantity

_____ **DxMONITOR*** *(Quarterly report of VDLRS data)*

_____ **Introduction to the VDLRS** *(An informational brochure)*

_____ **Report of the 1991 DxMONITOR Committee Meeting** (August 1991)

_____ **Report of the 1990 VDLRS Planning Committee Meeting** (June 1990)

* The most recent issue of the DxMONITOR will be sent. If you want past issues, please call (303) 490-7800.

Name:_____

Company/Business:_____

Street:_____

City, State:_____

Zip:_____ Phone:_____

☐ Please add my name to the mailing list for the DxMONITOR Animal Health Report.

Appendix

This section provides tables displaying the most current data reported for the following diagnoses or agents:

Key to Tables in this Section:

- Values shown are for Quarter 1 (January 1992 through March 1992), except for the YTD totals. Paratuberculosis is reported for Quarter 4 (October 1991 through December 1991).
- Data are presented by region of sample origin and month of sample submission.
- Values represent the number of positive tests (P) and the number of tests performed (T).
- Values reported in the "ALL" category represent all tests performed during the 3-month period. They include some tests for which a month of submission was not known. Therefore, the sum of the monthly values may not be equal to the "ALL" values.
- In some cases, the reported total number of tests performed is a minimum because some laboratories were not able to determine the total number of negative tests performed.
- TOT = Total
- UNK = Unknown
- YTD = Year-To-Date

Equine Viral Arteritis

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	1			31	0		29	5			0	0		66
	T	14			1836	4		213	431			58	1		2557
Feb	P	0	0		13	0		23	9			0	0		45
	T	1	9		298	1		125	374			53	9		870
Mar	P	6			28	0	0	11	7			3			55
	T	53			529	3	3	111	299			21			1019
All	P	7	5		72	0	0	63	21			3	0		171
	T	68	709		2663	8	3	449	1104			132	10		5146
YTD	P	7	5		72	0	0	63	21			3	0		171
	T	68	709		2663	8	3	449	1104			132	10		5146

Paratuberculosis

Bovine

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Oct	P	30	0		8	1	15		3			2			59
	T	304	2		18	1	21		12			8			366
Nov	P	29			9		6		4		0	0			48
	T	304			53		9		10		1	7			384
Dec	P	19			11		10	0	0			1			41
	T	310			15		11	1	3			6			346
All	P	78	13		47	1	31	0	7		0	3			180
	T	918	55		409	1	41	1	25		1	21			1472
YTD	P	196	77	1	126	2	137	251	34		0	20	11	6	861
	T	1941	246	123	833	25	416	2005	341		1	62	101	48	6142

Ovine

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Oct	P	0										0			0
	T	1										1			2
Nov	P														
	T														
Dec	P														
	T														
All	P	0										0			0
	T	1										1			2
YTD	P	3					4	1	0			0			8
	T	10					12	20	1			1			44

Caprine

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Oct	P														
	T														
Nov	P														
	T														
Dec	P							0							0
	T							4							4
All	P		1					0							1
	T		1					4							5
YTD	P	2	1		1		2	3	0						9
	T	7	1		1		3	43	28						83

Campylobacter

Beef Calves

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P											0			0
	T											4			4
Feb	P											0			0
	T											8			8
Mar	P								0			0			0
	T								2			5			7
All	P							0	0			0			0
	T							7	2			17			26
YTD	P							0	0			0			0
	T							7	2			17			26

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P											0			0
	T											3			3
Feb	P								0			0			0
	T								6			6			12
Mar	P											0			0
	T											7			7
All	P							7	0			0			7
	T							124	6			16			146
YTD	P							7	0			0			7
	T							124	6			16			146

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P				0				0			0			0
	T				13				2			7			22
Feb	P				0				0			0			0
	T				4				6			15			25
Mar	P								0			0			0
	T								4			14			18
All	P				0			7	0			0			7
	T				17			140	12			36			205
YTD	P				0			7	0			0			7
	T				17			140	12			36			205

Clostridium perfringens Type C

Beef Calves

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P								1						1
	T								1						1
Feb	P								1			1			2
	T								1			1			2
Mar	P	0					6		1						7
	T	1					8		1						10
All	P	0					6		3			1			10
	T	1					8		3			1			13
YTD	P	0					6		3			1			10
	T	1					8		3			1			13

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	1													1
	T	1													1
Feb	P														
	T														
Mar	P						0								0
	T						1								1
All	P	1					0								1
	T	1					1								2
YTD	P	1					0								1
	T	1					1								2

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	2			1		0		1						4
	T	13			1		20		1						35
Feb	P	4					1		1			1			7
	T	19					34		1			1			55
Mar	P	1			0		9		1						11
	T	33			2		111		1						147
All	P	7			1		10		3			1			22
	T	65			3		165		3			1			237
YTD	P	7			1		10		3			1			22
	T	65			3		165		3			1			237

Appendix

Escherichia coli

Beef Calves

		Region												
		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P						0		1			1			2
	T						2		10			6			18
Feb	P	0					1		0			1			2
	T	3					4		20			9			36
Mar	P	0					14		3			0			17
	T	7					79		25			10			121
All	P	0					15	6	4			2			27
	T	10					85	7	55			25			182
YTD	P	0					15	6	4			2			27
	T	10					85	7	55			25			182

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	1					2		8			0			11
	T	6					11		17			3			37
Feb	P	1					3		2			0			6
	T	3					14		12			6			35
Mar	P	1			1		6		2			1			11
	T	2			1		26		15			8			52
All	P	3	3		1		11	80	12			1			111
	T	11	27		1		51	124	44			17			275
YTD	P	3	3		1		11	80	12			1			111
	T	11	27		1		51	124	44			17			275

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	6			3		4		9			1			23
	T	18			13		35		28			18			112
Feb	P	7			1		10		2			1			21
	T	29			1		55		36			19			140
Mar	P	10			1		36		5			1			53
	T	46			12		243		40			20			361
All	P	23	3		57		50	93	16			3			245
	T	93	27		81		333	140	104			57			835
YTD	P	23	3		57		50	93	16			3			245
	T	93	27		81		333	140	104			57			835

Salmonella spp.

Beef Calves

		Region												
		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P				0		0		1			1			2
	T				4		3		13			5			25
Feb	P	0					0		2			0			2
	T	3					15		33			8			59
Mar	P	0					0		0			0			0
	T	12					113		32			10			167
All	P	0			0		0	0	3			1			4
	T	15			4		131	7	78			23			258
YTD	P	0			0		0	0	3			1			4
	T	15			4		131	7	78			23			258

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	0					3		10			3			16
	T	7					28		55			10			100
Feb	P	1			1		2		6			0			10
	T	10			1		27		53			6			97
Mar	P	1					4		6			2			13
	T	8					39		50			9			106
All	P	2	6		1		9	2	22			5			47
	T	25	24		1		94	124	158			25			451
YTD	P	2	6		1		9	2	22			5			47
	T	25	24		1		94	124	158			25			451

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	1			0		3		15			4			23
	T	20			17		59		82			24			202
Feb	P	1			1		2		8			0			12
	T	38			7		88		96			18			247
Mar	P	2			0		4		6			2			14
	T	64			16		312		82			21			495
All	P	4	6		7		9	2	29			6			63
	T	122	24		96		459	140	260			63			1164
YTD	P	4	6		7		9	2	29			6			63
	T	122	24		96		459	140	260			63			1164

Coccidia Parasitism

Beef Calves

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P				2		0		16			0			18
	T				5		1		18			5			29
Feb	P						1		0			1			2
	T						4		5			8			17
Mar	P	0					0		0			0			0
	T	1					7		7			11			26
All	P	0			2		1	0	16			1			20
	T	1			5		12	1	30			24			73
YTD	P	0			2		1	0	16			1			20
	T	1			5		12	1	30			24			73

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	0			0		3		0			0			3
	T	1			1		4		26			2			34
Feb	P	0					1		0			1			2
	T	1					4		43			5			53
Mar	P	0					0		0			1			1
	T	1					2		19			4			26
All	P	0			0		4	1	0			2			7
	T	3			1		10	29	88			11			142
YTD	P	0			0		4	1	0			2			7
	T	3			1		10	29	88			11			142

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	0			3		3		16			1			23
	T	11			19		25		49			14			118
Feb	P	0			2		3		0			4	0		9
	T	25			12		45		53			17	1		153
Mar	P	1			0		2		0			1			4
	T	36			13		116		26			15			206
All	P	1			7		8	2	16			6	0		40
	T	72			92		186	31	128			46	1		556
YTD	P	1			7		8	2	16			6	0		40
	T	72			92		186	31	128			46	1		556

Cryptosporidia Parasitism

Beef Calves

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P				2		1		1			0			4
	T				4		3		12			6			25
Feb	P	0					2		1			1			4
	T	3					12		25			7			47
Mar	P	4					26		11			0			41
	T	12					100		32			6			150
All	P	4			2		29	1	13			1			50
	T	15			4		115	1	69			19			223
YTD	P	4			2		29	1	13			1			50
	T	15			4		115	1	69			19			223

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	1			3		9		15			2			30
	T	6			3		25		29			5			68
Feb	P	2			3		8		26			0			39
	T	10			3		24		43			3			83
Mar	P	2					8		8			0			18
	T	6					35		26			3			70
All	P	5	5		6		25	11	49			2			103
	T	22	27		6		84	29	98			11			277
YTD	P	5	5		6		25	11	49			2			103
	T	22	27		6		84	29	98			11			277

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	2			11		12		16			3			44
	T	16			20		53		46			19			154
Feb	P	8			6		15		30			1	1		61
	T	43			19		81		73			11	1		228
Mar	P	11			8		55		19			0			93
	T	63			27		296		58			9			453
All	P	21	5		49		82	12	65			4	1		239
	T	122	27		115		430	31	177			39	1		942
YTD	P	21	5		49		82	12	65			4	1		239
	T	122	27		115		430	31	177			39	1		942

Bovine Viral Diarrhea

Beef Calves

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P								1						1
	T								1						1
Feb	P	0					1		0						1
	T	1					4		1						6
Mar	P	0					1					0			1
	T	4					20					9			33
All	P	0			1		2	0	1			0			4
	T	5			1		24	2	2			9			43
YTD	P	0			1		2	0	1			0			4
	T	5			1		24	2	2			9			43

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	0					1		1						2
	T	1					9		18						28
Feb	P						0		0						0
	T						9		3						12
Mar	P	0					1		0						1
	T	1					6		20						27
All	P	0					2	6	1						9
	T	2					24	82	41						149
YTD	P	0					2	6	1						9
	T	2					24	82	41						149

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	0			0		2		2			0			4
	T	11			50		31		31			7			130
Feb	P	0					2		0			0			2
	T	18					51		9			4			82
Mar	P	2					2		0			0			4
	T	33					134		20			9			196
All	P	2			8		6	6	2			0			24
	T	62			107		216	88	60			20			553
YTD	P	2			8		6	6	2			0			24
	T	62			107		216	88	60			20			553

Coronavirus

Beef Calves

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P						2		3			0			5
	T						3		10			8			21
Feb	P	1					0		2			1			4
	T	4					15		25			12			56
Mar	P	2					10		1			0			13
	T	12					109		25			5			151
All	P	3	0		0		12	0	6			1			22
	T	16	6		1		127	2	60			25			237
YTD	P	3	0		0		12	0	6			1			22
	T	16	6		1		127	2	60			25			237

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	1					8		6			2			17
	T	7					28		26			9			70
Feb	P	3					8		9			2			22
	T	10					27		20			10			67
Mar	P	2					7		5			2			16
	T	7					37		24			5			73
All	P	6	10				23	5	20			6			70
	T	24	43				92	80	70			24			333
YTD	P	6	10				23	5	20			6			70
	T	24	43				92	80	70			24			333

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	3			0		13		11			6			33
	T	18			23		59		42			31			173
Feb	P	10					17		13			4			44
	T	36					88		49			27			200
Mar	P	13			1		33		6			3			56
	T	59			1		308		49			13			430
All	P	26	10		3		63	5	30			13			150
	T	113	49		76		455	87	140			71			991
YTD	P	26	10		3		63	5	30			13			150
	T	113	49		76		455	87	140			71			991

Rotavirus

Beef Calves

Region

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P						1		0			0			1
	T						3		10			8			21
Feb	P	0					3		2			1			6
	T	4					15		24			12			55
Mar	P	2					12		13			0			27
	T	12					109		32			5			158
All	P	2	0		0		16	0	15			1			34
	T	16	6		1		127	2	66			25			243
YTD	P	2	0		0		16	0	15			1			34
	T	16	6		1		127	2	66			25			243

Dairy Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	0			1		9		9			2			21
	T	7			3		28		35			7			80
Feb	P	4					9		16			2			31
	T	10					27		42			10			89
Mar	P	1					9		11			1			22
	T	7					37		26			5			75
All	P	5	10		1		27	2	36			5			86
	T	24	45		3		92	80	103			22			369
YTD	P	5	10		1		27	2	36			5			86
	T	24	45		3		92	80	103			22			369

All Calves

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	0			1		11		11			3			26
	T	18			28		59		50			24			179
Feb	P	6			1		14		19			4			44
	T	36			6		88		70			27			227
Mar	P	7			11		39		24			2			83
	T	59			15		308		58			13			453
All	P	13	10		32		64	2	54			9			184
	T	113	51		144		455	87	178			64			1092
YTD	P	13	10		32		64	2	54			9			184
	T	113	51		144		455	87	178			64			1092

Etiologic Agents Associated with Piglet Diarrhea

Clostridium perfringens Type C

		Region												
		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	2					3								5
	T	38					25								63
Feb	P	1					2								3
	T	46					10								56
Mar	P	3			0		3								6
	T	45			2		21								68
All	P	6			0		8								14
	T	129			2		56								187
YTD	P	6			0		8								14
	T	129			2		56								187

Escherichia Coli

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	34			0	1	41		0			6			82
	T	85			1	2	110		2			24			224
Feb	P	57			0		48		0			6			111
	T	107			2		90		4			22			225
Mar	P	48					52					5			105
	T	106					118					17			241
All	P	139			49	1	141		0			17			347
	T	298			53	2	318		6			63			740
YTD	P	139			49	1	141		0			17			347
	T	298			53	2	318		6			63			740

Coccidia Parasitism

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	11					6					1			18
	T	69					66					7			142
Feb	P	2			0		7					3			12
	T	71			2		52					11			136
Mar	P	10					11					4			25
	T	69					61					12			142
All	P	23			1		24					8			56
	T	209			32		179					30			450
YTD	P	23			1		24					8			56
	T	209			32		179					30			450

Appendix

Etiologic Agents Associated with Piglet Diarrhea

Rotavirus

		Region												
		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	4			0	0	13		1			2			20
	T	71			8	2	107		7			19			214
Feb	P	25					14		0			2			41
	T	81					89		3			17			190
Mar	P	17			1		18		0			9			45
	T	93			1		118		4			25			241
All	P	46			21	0	45		1			13			126
	T	245			165	2	314		14			61			801
YTD	P	46			21	0	45		1			13			126
	T	245			165	2	314		14			61			801

Transmissible Gastroenteritis

		CL	FL	HI	ME	MN	NC	NE	PA	PR	SC	SE	SW	UNK	TOT
Jan	P	16			1	0	15		1			3			36
	T	71			6	2	107		6			20			212
Feb	P	11			1		12		2			6			32
	T	81			4		89		5			26			205
Mar	P	23					20		0			5			48
	T	93					118		4			22			237
All	P	50			11	0	47		3			14			125
	T	245			110	2	314		15			68			754
YTD	P	50			11	0	47		3			14			125
	T	245			110	2	314		15			68			754

Lab Notes and News Article Submissions Are Encouraged

Readers of the DxMONITOR Animal Health Report are encouraged to submit items suitable for "Lab Notes" or the "DxNEWS". All articles should be typed double spaced. Photos/artwork should be camera ready copy. If possible, please provide your article on diskette and indicate what type of software was used to create/store the file (i.e., WordPerfect, Word Star). Send submissions to the address below.

Interested Laboratories are Asked to Get Involved!

The Veterinary Diagnostic Laboratory Reporting System would like to expand the number of laboratories participating in the submission of data for the DxMONITOR Animal Health Report. For more information concerning participation, contact the staff at the address provided below.

Send all correspondence and address changes to:

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